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ABSTRACT

The Commission for Occupational Education Excellence was formed by the Steuben-Allegany (New York) Board of Cooperative Educational Services (BOCES). The commission included representatives from schools, businesses, parents and students, labor and teacher unions, other public agencies, postsecondary schools, and the BOCES. The commission's mission was to present recommendations to the BOCES board in May 1991 for student outcomes and instructional delivery to ensure excellence and accountability in local occupational education programs. The commission made the following general recommendations: (1) strengthen relationships among all stakeholders to result in meaningful and functioning partnerships and accountability; (2) promote cooperation among all entities to result in excellence of mastery/competency level vocational and academic programs; and (3) implement comprehensive, outcome-based assessments to support the strategic objective that students graduating from high school are prepared for college and/or employment. Specific recommendations were made in the areas of student outcomes, partnerships, delivery, life skills, assessment and guidance, and cooperation and communication. (This document includes the findings and recommendations of the commission, preceded by an executive summary and summary of recommendations. Appendixes include the text of remarks by the BOCES district superintendent, Rene L. Bouchard, and by Lorin Cooper, director of occupational education; a literature survey with 25 references; graduate characteristics and skills; scales for validation of basic and expanded basic skills; student outcomes; and a sample student schedule.) (KC)

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REPORT AND RECOMMENDATIONS

OF

THE COMMISSION FOR OCCUPATIONAL EDUCATION EXCELLENCE

MAY, 1991

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DATE: May 8, 1991

TO: The Steuben-Allegany Board of Cooperative Educational Services:
Mr. Wallace MacDonald, President
Mr. Edwin A. Blough, Vice-President
Mr. Glen E. Bullock
Mr. Donald E. Chatfield
Mr. John A. Cianciosi
Mrs. Frances Heichel
Mr. J. Harold McConnell

FROM: The Commission for Occupational Education Excellence

RE: The Final Report and Recommendations

The Commission for Occupational Education Excellence is pleased to submit its final Report and Recommendations. Except as noted, this report represents the work of the Commission in fulfilling its mission to present recommendations for student outcomes and instructional delivery to assure excellence and accountability in local occupational education programs.

This report was adopted by consensus and, as consensus implies compromise and conciliation, our individual views and/or the views of our respective organizations may vary.

The Commission wishes to acknowledge and thank the positive, professional dedication of the staff of the Steuben-Allegany BOCES, particularly the Occupational Education staff, for initiating this effort and for the vast amount of planning and organization necessary for the Commission's success. Specifically, the Commission commends the work of Judy Ingalls, our facilitator, of the Wildwood Education Center for facilitating the Commission's meetings; and Darlene Borden of the BOCES headquarters for coordinating the Commission's meetings and materials.

Further, the Commission thanks Rich Falls and Charlene Fowler for their informative presentations on Teaching for Occupational Proficiency (TOP) and on student leadership organizations, respectively.

EXECUTIVE SUMMARY AND SUMMARY OF RECOMMENDATIONS

The Commission for Occupational Education Excellence was formed under the auspices of the Steuben-Allegany Board of Cooperative Educational Services (BOCES). Invited to participate were representatives from component schools, local business and industry, parents and students, labor and teacher unions, other public agencies, post-secondary schools, and BOCES.

The mission was to present recommendations to the BOCES Board in May, 1991, for student outcomes and instructional delivery to assure excellence and accountability in local occupational education programs.

Driving the formulation of the Commission was an opportunity to expand upon the very latest general and occupational education specific initiatives from the New York State Education Department. These initiatives include the concepts of comprehensive outcome-based and mastery-founded education as presented in SED's "A New Compact for Learning".

The challenges of improving education today, both vocational and academic, demand the attention and dedication of every stakeholder. The work of the Commission for Occupational Education Excellence is only the beginning of this attention and dedication in the Steuben-Allegany district.

The Commission proceeded with deliberations cognizant of the fact that there are deficiencies in educational programs and assessments, but that these deficiencies are rectifiable. Pursuant to these deficiencies, the Commission made certain findings on which are based ensuing recommendations.

The Commission recommendations, in general, call for:

1) Strengthened relationships among all stakeholders to result in meaningful and functioning partnerships and accountability,

2) Cooperation among all entities within the Steuben-Allegany BOCES district to result in excellence in delivery of mastery/competency level vocational and academic programs, and

3) Comprehensive, outcome-based assessments to support the strategic objective in the "A New Compact for Learning" that students graduating from high school are prepared for college and/or the world of work.

Each recommendation is a step toward enhancing the image and accessibility of vocational education and toward establishing the instructional flexibility necessary in today's ever-changing environment.

The specific recommendations of the Commission are:

I. STUDENT OUTCOMES

A. that BOCES derive specific, measurable student outcomes for occupational education curriculum pursuant to the characteristics and skills list developed by this Commission.

B. that BOCES consult with business and industry, occupational education faculty and staff, and representatives from the component schools, including guidance counselors and appropriate faculty, in developing student outcomes.

C. that BOCES consider the outcomes of the "Basic and Expanded Basic Skills: Scales for Validation Study" and of the Corning-Painted Post Occupational Education Task Force in deriving student outcomes.

II. PARTNERSHIPS

A. that BOCES establish a staff position with appropriate rank and authority to accomplish formal partnerships. These partnerships with business and industry and with post-secondary schools should result in relevance and excellence in BOCES curricula.

B. that BOCES involve business and industry in curricula development, teaching, and assessment to the maximum extent possible.

C. that BOCES utilize existing advisory groups, including a form of this Commission, to assess the effectiveness of the implementation of the recommendations in this report and to redirect, refocus, and recommend alternative proposals as needed.

D. that business and industry and post-secondary schools cooperate with BOCES in forming formal-in-nature partnerships.

E. that BOCES study the results of the twelve-week pilot project for mentor training currently in progress under the auspices of the Career Development Council for possible application to the BOCES activities.

III. DELIVERY

A. that BOCES broaden the use of the TOP format to all curriculum areas to institute a flexible delivery system BOCES-wide with adequate time for students to complete program mastery/competency levels and achieve desired outcomes.

B. that BOCES restructure its current programs into four vocational clusters as follows:

CLUSTERS	MODULES FROM CURRENT PROGRAMS INCORPORATED INTO THE CLUSTER
I. Technical/ Industrial	Building Trades, Electronics, Machine Trades, Motorcycle - Marine and Outdoor Power Equipment, Welding, Building Construction
II. Service	Food Trades, Health Occupations Core, Nursing Assistant, Health Related Child Care, Marketing and Merchandising, Cosmetology, Sales & Marketing
III. Automotive/ Mechanical	Auto Body, Agriculture Mechanics-Conservation-Heavy Equipment Automotive Technology, Electronics, Conservation and Natural Resources, Heavy Equipment Operation and Repair
IV. Business/ Clerical	Electronic Office Procedures, Graphics Communications, Marketing and Merchandising, Medical Secretary, Automated Office Practice, Sales & Marketing

This restructuring will allow for easier use of the TOP format's cluster/module approach if the TOP cluster restrictions were lifted.

C. that BOCES institute common core topics that all students would take such as teamwork, leadership, and computer applications. In a particular cluster, students would be able to select from a variety of modules. For example, in the technical/industrial cluster students might take hand and power tools, safety, welding, or blue print reading. Students could opt for a vast array of modules to explore many avenues or opt for related modules to gain mastery in a specific area.

D. that BOCES restructure its day and the units of credit recommended for award for BOCES participation. This could be accomplished by breaking the current 2 hour 40 minute block of time into thirty-seven-minute modules with 4 minutes between modules. These time modules may stand alone or be combined together depending upon the topic being presented. A sample 1/2 day schedule is presented in Appendix G.

IV. LIFE SKILLS

A. that BOCES make participation in student leadership organizations (Vocational Industrial Clubs of America; Distributive Education Clubs of America, Future Farmers of America, Health Occupation Students of America, and Future Conservationists of America) mandatory for all BOCES students.

B. that BOCES work with business and industry to identify necessary and specific life skills, incorporate them into curricula and assess a student's mastery/competency of them as outcomes.

V. ASSESSMENT AND GUIDANCE

A. that BOCES establish a staff position at each of the campus centers to provide proper assessment, guidance and transitional services for students while maintaining liaison with area business and industry, area post-secondary schools, and component schools.

B. that BOCES use Individual Learning Plans (ILP) with specific student outcomes in basic and life skills for each student, developed after comprehensive assessment.

C. that BOCES use mastery/competency of student outcomes as the measure for credit recommended to the component school to award.

D. that BOCES institute the use of a resume-portfolio, containing items such as those offered in the text of this report, to replace current "certificate" awards.

VI. COOPERATION AND COMMUNICATION

A. that the component schools of the BOCES district agree to, adopt, and adhere to, a common school calendar, common marking period/semester scheduling, and, to the greatest extent possible, similar patterns of student/ teacher scheduling.

B. that the component schools of the BOCES district, as a group, study the concept of a regional school district to include, at least, centralized accountability for administrative decisions and employee agreements and personnel. This study should examine possibilities for a longer school day and a longer school year.

C. that the component schools of the BOCES and the BOCES investigate and recommend improvements regarding a cooperative and coordinated district-wide transportation system to include recommended improvements in time lost from instruction, such as bus travel time between component schools and BOCES campus centers.

D. that the component schools of the BOCES and the BOCES investigate and recommend appropriate uses of distance learning in the delivery of vocational education, the use of component school teachers as teachers teamed with BOCES faculty, and increased use of computers as instructional tools to enable greater flexibility and more specific programming.

E. that the BOCES investigate and recommend possibilities relative to the summer use of BOCES facilities.

F. that the BOCES conduct a comprehensive survey of graduates to determine the relationship between the education they received and the career experiences they have encountered. The ongoing survey, at 1 year out, 5 years out, and 10 years out, will give BOCES an evaluation of areas of programming success and areas where programming changes are necessary.

COMMISSION MEMBERS:

MARK ALGER*
STEUBEN COUNTY ADMINISTRATOR

ROGER BACON*
DRESSER RAND CO. LOCAL 313 I.U.E.

SAM BALASH JR. +
COOPERS EDUCATION CENTER

BARB BAMONTI
CORNING, INC.

EDWIN BLOUGH
STEUBEN-ALLEGANY BOCES BOARD

TIMOTHY BOLTON
COHOCTON CENTRAL SCHOOL

MICHAEL BRACY
CORNING-PAINTED POST SCHOOLS

KAREN BREWER*
WILDWOOD EDUCATION CENTER

JOHN CIANCIOSI*
STEUBEN-ALLEGANY BOCES BOARD

LORIN COOPER+
STEUBEN-ALLEGANY BOCES

ROBERT DUNHAM*
CAMPBELL CENTRAL SCHOOL

MIKE DURSO
HORNELL HIGH SCHOOL

KELLY FORD ELLINGHAM+
WILDWOOD EDUCATION CENTER

BRUCE EVERHART
MORRISON-KNUDSEN CO., INC.

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BRADFORD CENTRAL SCHOOL

DAVID FLEET
PRATTSBURG CENTRAL SCHOOL

KEVIN FREELAND
WILDWOOD EDUCATION CENTER

HAROLD HALL
ADDISON CENTRAL SCHOOL

LINDA HANSEE
CAREER DEVELOPMENT COUNCIL

NILE HEERMANS
STEUBEN-ALLEGANY BOCES

THERESA HUANG
BATH CENTRAL SCHOOL

RALPH JOHNSON
PRUDENTIAL INSURANCE

SANDRA KASSON
STEUBEN-ALLEGANY BOCES

RALPH KERR
ARKPORT CENTRAL SCHOOL

ALICE KIFF*
HAMMONDSPORT CENTRAL SCHOOL

HUGH LANGELIER
STEUBEN-ALLEGANY BOCES

DAVID LARRIMORE+
STEUBEN-ALLEGANY BOCES

DAVE LUELLEN
ALFRED-ALMOND CENTRAL SCHOOL

MARK MACFARLANE*
N.Y.S. EDUCATION DEPT.

SID MANN*
REGIONAL EDUCATIONAL PLANNING & DEVELOPMENT

CHARLES MASSEY
JASPER-TROUPSBURG CENTRAL SCHOOL

ROBERT MCINTOSH
CANASERAGA CENTRAL SCHOOL

MARGARET MUNSON
STEUBEN-ALLEGANY BOCES

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ALFRED UNIVERSITY

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CAMPBELL SCHOOL BOARD

SYLVIA ROOT+
COOPERS EDUCATION CENTER

LYMAN SAVORY
ALFRED STATE COLLEGE

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AVOCA CENTRAL SCHOOL

WILLIAM TAMMARO*
GREENWOOD CENTRAL SCHOOL

MARY ANN THOMAS*
DRESSER RAND COMPANY

JOSEPH WALLACE*
COOPERS EDUCATION CENTER

MICHAEL WALSH*
CANISTEO CENTRAL SCHOOL

ERNA WESTWIG
ADDISON CENTRAL SCHOOL

ROBERT WHITCOMB
WHITCOMB FORD, INC.

KATHY YOUNG
STEUBEN-ALLEGANY BOCES

STAFF:

JAMES P. BLIZZARD+
DARLENE BORDEN
JUDY INGALLS+

* Indicates member of Design Committee
+ Member of BOCES working group

UNDERSTANDINGS

The Commission proceeded with deliberations and made its recommendations with certain understandings. These understandings, although seemingly evident, serve to endorse the commitment the Commission has and the commitment others have toward making the student the object of positive attention and dedication.

Every student should have the opportunity to thoroughly explore, investigate, and sample vocational education.

Each student is a unique individual and, as such, has unique abilities and interests which should be fully considered before the student chooses career and life goals.

The New York State Education Department is serious regarding concepts and statements such as "top-down support for bottom-up reform", and encouraging the Regents to actively seek "changes necessary in law" in the proposed "A New Compact for Learning" for state support of local initiatives.

The vast majority of students will, upon completion of high school, at least initially, pursue one of the following paths: the world of work, the military, or further education. Students have to be prepared to choose any of these options and to have no doors closed to them.

Students have a great diversity of interests and talents and we must address the needs of students ranging in ability from those in Special Education programs to those who are extremely gifted.

The literally thousands of potential career possibilities our students will face, demands a new comprehensive approach to our academic/vocational endeavors.

There are a variety of social issues which have an impact on education through a student's attitudes and behaviors. While resolution of these social issues is beyond the scope of this Commission, positive educational reforms recommended by this Commission, including requiring mastery of life skills, should result in improved student attitude, behavior, and performance.

THE PROBLEM

Rapid changes in the world's economy and increasing demands of a new, sophisticated workplace have responsible educational institutions and organizations seeking reform. Further, the workplace requires skills and abilities beyond academics as business and industry increase their reliance on results of employee training and interaction. However, students have the same right to know the requirements for employment in local business and industry as they know requirements for post-secondary schools.

Overviews of occupational educational reform were presented to the Commission in remarks by BOCES District Superintendent Rene' L. (Jay) Bouchard and other remarks by BOCES Director of Occupational Education Lorin Cooper. The Commission also received a brief comparative summary of their effort with other national, state, and local educational organizations. These documents are included in Appendices A, B, and C, respectively, of this report.

The Commission identified sixteen specific local problem areas for which creative solutions and recommendations are proposed. These problem areas are:

1. Resolution is necessary to institute and maintain equity in the areas of control and accountability for such things as jobs and cost-containment.

2. The lack of significant partnerships between BOCES and local business and industry has a negative impact on curricula development, instructional delivery, and student assessment.

3. Instructional time is not being used to the maximum such as bus time to and from BOCES which, in this expansive rural BOCES district is considerable.

4. There needs to be a greater emphasis in vocational education on basic skills and on the ability to learn them. This call from business and industry is to shift from trade specific skills.

5. Technological advancements, which allow such opportunities as distance learning, are not being exploited.

6. There is not adequate time for students to complete occupational program mastery levels with the current system of delivery.

7. There is a lack of standardized shared information concerning a student's attitude, behavior, and potential for growth.

8. There is a lack of coordination in information sharing, program presentation and area employment needs among BOCES, secondary schools, prospective employers, and public and private job service organizations.

9. The current "certificate" from BOCES is not an adequate measurement or assessment for hiring into industry.

10. There is a lack of demonstrated ability on the part of students in the "expanded basics" area of skills.

11. Incoming students need effective evaluation and assessment before an Individual Learning Plan (ILP) is developed.

12. There needs to be a more accurate measure of a student's proficiency during occupational education instruction.

13. Evaluation is needed to assess whether students have developed life skills and abilities which make them better citizens and workers.

14. Opportunities must exist for every student to thoroughly explore, investigate, and sample many career possibilities before choosing a job/trade specific program.

15. Assessment and guidance efforts of career and life choices must exist which consider each student's unique abilities and interests.

16. A flexible delivery system for occupational education must address the many variables that an individual student may bring to the educational setting and that technological advancements may require in curricula and instruction.

FINDINGS AND RECOMMENDATIONS

I. FINDING - STUDENT OUTCOMES

Grade measurements do not accurately reflect a student's ability, performance, and capability. Measurable outcomes, in academic skills, life skills, and vocational skills are superior reflections.

The Commission supports the initiatives in the New York State Education Department's "A New Compact for Learning", as they emphasize state support for local responsibility and focus on student outcomes. Similarly, the Commission supports the recommendation of the (New York) Statewide Steering Committee on preparation for Employment and/or Post-secondary Education (The Anderson Committee, 8/90) which calls for "change (in) the primary focus...from emphasis on education procedures to educational outcomes, which will permit local districts to develop individualized plans to meet their needs." To arrive at student outcomes, the Commission spent considerable time determining those qualities and skills an ideal employee ought to possess.

The Commission input, presented as raw data in Appendix D, was ranked by emphasis on each characteristic in five skills areas: work ethics; communication; processing; job specific; and expanded basic. Commonalities occurred within the areas such as with leadership and teamwork which were condensed to the following list of graduate skills and/or characteristics:

Dependability, responsibility and having pride in workmanship

Articulate, able to give and receive verbal and written instructions

Problem solving, decision making, and life skills

Flexibility; ability to grow and adapt

Leadership skills

Ability to master specific skills

Reading skills

Self esteem, self concept, personal presentation and management

Goal setting skills

Teamwork skills

Writing skills

Computer skills

Related industrial history

Related math skills

Creative thinking skills

Economic skills

The Commission's task to derive specific student outcomes necessary to measure a student's mastery/competency of these characteristics and skills was simplified, in part, by the two previous endeavors. The first was the "Basic and Expanded Basic Skills: Scales for Validation Study", conducted by the New York State Education Department in July, 1990. This study resulted in an overview of levels of performance in skills for "...three basic areas of competency needed by individuals entering the work world and/or post-secondary education." The three areas included:

1. Language Arts (Listening and speaking, reading, and writing)

2. Mathematics (Basic operations, Logic, Statistics, Algebra and Geometry, etc.)

3. Expanded Basics (Reasoning, Working as a member of a team, Setting Priorities, and Personal Work Skills and Behaviors, etc.)

Measurable performance levels and specific student outcomes were developed.

The second endeavor was "...specific student outcomes in the areas of math, science, reading, speaking, computer literacy, leadership, teamwork, problem solving and communication..." derived by the Corning-Painted Post (New York) Occupational Education Task Force in June, 1990.

Recognizing these accomplishments and the critical contribution of business and industry in formulating the outcomes of the Corning-Painted Post group, and not desiring to "reinvent-the-wheel", the Commission endorses these outcomes and incorporates them jointly as Appendices E and F of this report.

RECOMMENDATIONS

A. The Commission recommends that BOCES derive specific, measurable student outcomes for each occupational education curricula pursuant to the characteristics and skills list developed by this Commission.

B. The Commission recommends that BOCES consult with business and industry, occupational education faculty and staff, representatives from the member schools, including guidance counselors and appropriate faculty, in developing student outcomes.

C. The Commission recommends that BOCES consider the outcomes of the "Basic and Expanded Basic Skills: Scales for Validation Study" and of the Corning-Painted Post Occupational Education Task Force in deriving student outcomes.

II. FINDING - PARTNERSHIPS

There is a severe lack of meaningful partnerships with stakeholders, specifically business and industry and post-secondary schools. Stakeholder input to programs, to standards, and to other stakeholders, is essential to make the system effective and to maintain meaningful experience programs for students.

Paramount to the success of each and every ensuing recommendation is the need for all stakeholders to build and maintain effective partnerships for occupational education. This linkage is particularly important between BOCES and business and industry and between BOCES and post-secondary schools.

With business and industry, endeavors should include, at least:

* Mentor programs to show students the practical applications of education

* Shadowing experiences to expose students to a variety of work situations

* Internships for students to develop work experience and work ethics

With post-secondary schools, particularly Corning Community College and Alfred State College, endeavors should include, at least:

* Advanced college credit as proper incentive to students

* "2+2" programs and tech-prep programs to strengthen ties between occupational education and college curricula

With both institutions, BOCES could share staff and facilities for maximum equity and cost-effectiveness.

RECOMMENDATIONS

A. **The Commission recommends that BOCES establish a staff position with appropriate rank and authority to accomplish formal partnerships. These partnerships with business and industry and with post-secondary schools should result in relevance and excellence in BOCES curricula.**

B. The Commission recommends that BOCES involve business and industry in curricula development, teaching, and assessment to the maximum extent possible.

C. The Commission recommends that BOCES utilize existing advisory groups, including a form of this Commission, to assess the effectiveness of the implementation of the recommendations in this report and to redirect, refocus, and recommend alternative proposals as needed.

D. The Commission recommends that business and industry and post-secondary schools cooperate with BOCES in forming formal-in-nature partnerships.

E. The Commission recommends that BOCES study the results of the twelve-week pilot project for mentor training currently in progress under the auspices of the Career Development Council for possible application to the BOCES activities.

III. FINDING - DELIVERY

A flexible system for delivery and administration must be established to meet the ever-changing needs of our technological/global society. Education must be future-oriented with an ongoing program for analyzing the needs of society and for retooling educational programming and reassessing administrative decisions.

The Dictionary of Occupational titles lists over 10,000 specific jobs. BOCES currently trains students in approximately 15 job/trade specific areas, and, realistically, is--as presently structured--attractive to, accessible to, and appropriate for a small minority of the overall student body. While BOCES is giving students job specific entry-level skills, it is often doing so at the expense of the broader academic preparation and global vocational/technical skills that are needed to provide the foundation for the technical advancements that occur so rapidly in the business/industrial world. Business and industry must provide for the constant retraining and upgrading of their employees' skills. BOCES cannot train a student for life. Students and future employers will be better served if, instead, BOCES gives students the tools (academic and vocational) to tackle an ever changing world of work effectively. BOCES should give students the solid foundation upon which to build.

Delivery of occupational education should allow adequate time for students to achieve mastery/competency of desired outcomes. The Commission also sees the necessity for a much closer tie between the academic and the vocational components of a student's educational experience. Teachers in the areas of Math, Science, English, Computers, Social Studies, and Technology, etc., need to work much more cooperatively with vocational teachers. Applications should be clearly presented to the students to assure that the needed academics are not only understood, but that they can be applied.

The Commission recognizes the success BOCES enjoys utilizing the TOP format for some of its curricula. TOP is a "...modular system designed to encourage flexibility, adaptability, consistency, accountability, and manageability in New York State Trade and Industrial Education. It emphasizes student outcome proficiency as the appropriate educational standard". (Information Handbook for The New York State Trade and Industrial Education Curriculum Project, 8/88.)

RECOMMENDATIONS

A. The Commission recommends that BOCES broaden the use of the TOP format to all curriculum areas to institute a flexible delivery system BOCES-wide with adequate time for students to complete program mastery/competency levels and achieve desired outcomes.

B. The Commission recommends that BOCES restructure its current programs into four vocational clusters, similarly, as follows:

CLUSTERS	MODULES FROM CURRENT PROGRAMS INCORPORATED INTO THE CLUSTER
I. Technical/ Industrial	Building Trades, Electronics, Machine Trades, Motorcycle - Marine and Outdoor Power Equipment, Welding, Building Construction
II. Service	Food Trades, Health Occupations Core, Nursing Assistant, and Health Related Child Care, Marketing and Merchandising, Cosmetology, Sales & Marketing
III. Automotive/ Mechanical	Auto Body, Agriculture Mechanics-Conservation-Heavy Equipment, Automotive Technology, Electronics, Conservation and Natural Resources, Heavy Equipment Operation and Repair
IV. Business/ Clerical	Electronic Office Procedures, Graphics Communications, Marketing and Merchandising, Medical Secretary, Automated Office Practice, Sales and Marketing

This restructuring will allow for easier use of the TOP format's cluster/module approach if the TOP cluster restrictions were lifted.

C. The Commission recommends that BOCES institute common core topics that all students would take such as teamwork, leadership, and computer applications. In a particular cluster, students would be able to select from a variety of modules. For example, in the technical/industrial cluster students might take hand and power tools, safety, welding, or blue print reading. Students could opt for a vast array of modules to explore many avenues or opt for related modules to gain mastery in a specific area.

D. The Commission recommends that BOCES restructure its day and the units of credit recommended for award for BOCES participation. This could be accomplished by breaking the current 2 hour 40 minute block of time into 4 thirty-seven minute modules with 4 minutes between modules. These time modules may stand alone or be combined together depending upon the topic being presented. A sample 1/2 day schedule is presented in Appendix G.

IV. FINDING - LIFE SKILLS

There is a lack of demonstrated ability on the part of students in the "basics" and the "expanded basics" areas of skills (as defined by the New York State Education Department). Students need to become well-rounded people, competent and able to work and live well with and among others.

The Commission recognizes the necessity for students to become well-rounded people, competent in not only basic skills, but in life skills as well. Life skills, such as teamwork and leadership, need to be incorporated into vocational instruction and measured in the same manner as basic skills.

In "America's Choice: High Skills or Low Wages!", the Commission on Skills of the American Workforce reported that basic skills, which used to be reading, writing, and arithmetic, are now expanded, based on business and industry demands to include many, if not all, of the characteristics which the Commission developed in Section I of the findings and recommendations of this report.

* Problem solving skills means workers must analyze problems and come up with solutions
* Leadership means workers must be able to assume responsibility and direct co-workers when necessary
* Teamwork means workers must cooperate toward common goals and be able to divide work equitably and effectively
* Self esteem means workers who are proud of themselves and their abilities

Student leadership organizations offer activities and programs which complement instruction and emphasize the very life skills this Commission deems desirable characteristics of graduates. These organizations include The Vocational Industrial Clubs of America (VICA), The Future Farmers of America (FFA), The Distributive Education Clubs of America (DECA), the Health Occupation Students of America (HOSA), and the Future Conservationists of America (FCA). Student participation in these organizations is currently voluntary.

RECOMMENDATIONS

A. The Commission recommends that BOCES make participation in student leadership organizations (Vocational Industrial Clubs of America,

Distributive Education Clubs of America, Future Farmers of America, Health Occupation Students of America, and Future Conservationists of America) mandatory for all BOCES students.

B. The Commission recommends that BOCES work with business and industry to identify necessary and specific life skills, incorporate them into curricula and assess a student's mastery/competency of them as outcomes.

V. FINDING - ASSESSMENT AND GUIDANCE

Student assessments are deficient at entry, during, and upon exiting an educational program. Current placement, proficiency, and mastery/competency measures or "certificates" do not adequately or accurately reflect student performance. Local business and industry employment standards need to be incorporated into an evaluation system in a similar manner as governmental standards.

Proper evaluation in today's vocational education system requires a threefold process. There must be:

1. an effective assessment of an incoming student,
2. an appropriate measure of a student's proficiency during instruction, and
3. a comprehensive analysis of a graduating student.

The effective assessment of an incoming student's knowledge, skills, aptitude, etc., as well as the student's values and attitudes, would assist in proper guidance. Remediation and/or prerequisite courses which may be necessary should be prescribed. Guidance counselors should map out an Individual Learning Plan (ILP) best fitting each student with no preset mandates of time, money, or equipment. Projected student outcomes would be realistic.

Local employment standards must be known before a student's ILP is developed. These standards should be formulated into outcomes. It is neither productive nor meaningful to graduate students whose mastery/competency is below local industry employment standards.

Evaluation during instruction must realistically measure a student's proficiency. The evaluation must guarantee as much as possible that students will be employable in their area.

Credit awarded for participation in a module should not be based on seat-time, but on a student's mastery/competency of the projected student outcomes.

Upon completion of an ILP, a student should have a formal package of evaluation. This resume-portfolio presented sequentially should reveal growth over time in a systematic and organized collection of the student's performance. A resume-portfolio might include:

* Certificates from each module of instruction reflecting mastery/competency of the projected student outcomes which include both basic skills and life skills

Certificates could also include an instructor's analysis of the student's work related values and attitudes.

* Records of accomplishments and/or awards

* The student's resume with references

* Evidence of a student's work products in photographs, video tapes, etc.

* Assessments of work related values and attitudes collected by teachers at regular intervals and by mentors, guidance counselors, or student leadership organization counselors at appropriate times

* Evaluations by industry personnel from internships, work-experience programs, shadowing, etc.

RECOMMENDATIONS

A. The Commission recommends that BOCES establish a staff position at each of the campus centers to provide proper assessment and guidance and transitional services for students while maintaining liaison with area business and industry, area post-secondary schools, and component schools.

B. The Commission recommends that BOCES use Individual Learning Plans (ILP) with specific student outcomes in basic and life skills for each student developed after comprehensive assessment.

C. The Commission recommends that BOCES use mastery/competency of student outcomes as the measure for credit recommended to the component school to award.

D. The Commission recommends that BOCES institute the use of a resume-portfolio, containing items such as those offered in the text of this report, to replace current "certificate" awards.

VI. FINDING - COOPERATION AND COMMUNICATION

There must be a new spirit of and commitment to cooperation and communication. All stakeholders must be willing to work closely and cooperatively together to resolve issues of turf, control, jobs, and cost-containment. This effort must result in sustained equity and must result in the optimum for students and employers.

Proper roles for stakeholders were considered by the Commission. Essentially, stakeholders must be knowledgeable of and encouraged to accept these roles in equal support of vocational and academic education, and the combination of both.

Parents must foster positive attitudes, work ethics, and values that support education. Students must contribute their talents and efforts with dedication and be goal oriented. Teachers and administrators must guide, teach, and prepare. Business and industry must communicate their needs and cooperate in exploration, orientation, training, and teaching. The community must support educational programs financially and with other resources that will enable us to assume our leading place in the competitive world of the 21st century.

Current school sessions are not conducive to instruction or to learning. In the BOCES district, the diversity of 17 component school calendars has 24 half days with one or more of the component schools out of session which costs BOCES nearly five weeks of school.

Similar to the diversity of calendars within the district is diversity in:

* administrative decisions
* employer agreements and personnel
* transportation
* use of facilities
* cost-containment and budgets

Excellence in education and maximum equity in delivery are lost in such a setting.

RECOMMENDATIONS

A. The Commission recommends that the component schools of the BOCES district agree to, adopt and adhere to a common school calendar, common

marking period/semester scheduling, and, to the greatest extent possible, similar patterns of student teacher scheduling.

B. The Commission recommends that the component schools of the BOCES district study, as a group, the concept of a regional school district to include, at least, centralized accountability for administrative decisions and employee agreements and personnel. This study should examine possibilities for a longer school day and a longer school year.

C. The Commission recommends that the component schools of the BOCES and the BOCES investigate and recommend improvements regarding a cooperative and coordinated district-wide transportation system to include recommended improvements in lost instructional time, such as bus time, travel time between component schools and BOCES Education centers.

D. The Commission recommends that the component schools of the BOCES and the BOCES investigate and recommend appropriate uses of distance learning in the delivery of vocational education, the uses of component school teachers as teachers teamed with BOCES faculty, and increased use of computers as instructional tools to enable greater flexibility and more specific programming.

E. The Commission recommends that the BOCES investigate and recommend possibilities relative to the summer use of BOCES facilities.

F. The Commission recommends that the BOCES conduct a comprehensive survey of graduates to determine the relationship between the education they received and the career experiences they encountered. The ongoing survey, at 1 year out, 5 years out, and 10 years out, will give BOCES an evaluation of areas of programming success and areas where programming changes are necessary.

APPENDIX A

TEXT OF REMARKS BY BOCES DISTRICT SUPERINTENDENT
RENE' L. BOUCHARD

COMMISSION FOR OCCUPATIONAL EDUCATION EXCELLENCE
NOVEMBER 1, 1990
DAYS INN, BATH, NY - 4:30 P.M.

JAY BOUCHARD

THE FINDINGS OF THE RESEARCHERS AND COMMISSIONS ARE CLEAR. WHAT IS DIFFERENT NOW IS THAT THE PUBLIC, THE PRESS AND BUSINESS AND INDUSTRY **BELIEVE** THOSE FINDINGS, AS DO MOST EDUCATORS - **SCHOOLS ARE NOT ADEQUATELY PREPARING STUDENTS FOR CAREERS AND LIFE AFTER HIGH SCHOOL NOW OR IN THE FUTURE.**

30+% OF OUR STUDENTS DON'T EVEN TAKE A COLLEGE PREP OR VOCATIONAL PREP PROGRAM. OF THOSE WHO DO AND ENTER COLLEGE, 55% DROP OUT. THOSE HIGH SCHOOL GRADUATES WHO ENTER THE WORK FORCE DIRECTLY ARE FOUND TO BE UNABLE TO DO THE BASIC SKILLS REQUIRED AND CANNOT PROBLEM-SOLVE OR WORK AS A TEAM. THE NEED FOR THOSE TECHNICAL, DECISION-MAKING, AND TEAMWORK SKILLS IS INCREASING GREATLY. ONE EFFECT OF THE DECREASED PRODUCTIVITY IS OUR NATION IS NOW 12TH IN WAGES PAID TO SKILLED WORKERS AND IS PREDICTED TO BE 25TH BY THE YEAR 2000.

I BELIEVE THAT, AS AN AFRICAN PROVERB QUOTED BY COMMISSIONER OF EDUCATION THOMAS SOBOL STATES, "IT TAKES THE WHOLE VILLAGE TO RAISE A CHILD". THE ENTIRE SCHOOL COMMUNITY **MUST** BE INVOLVED IN EDUCATION. THEREFORE, EDUCATORS CAN NEITHER TAKE ALL THE BLAME FOR THE CURRENT STATE OF AFFAIRS NOR BE ENTIRELY RESPONSIBLE FOR THE SOLUTIONS AND, THUS, THIS REPRESENTATION OF DIVERSE INTERESTS HERE TONIGHT.

AMONG THE SEVERAL BOCES PROGRAMS ARE GIFTED AND TALENTED EDUCATION, MANAGEMENT SERVICES, SPECIAL EDUCATION, PROFESSIONAL WORKSHOPS, OCCUPATIONAL EDUCATION AND MEDIA SERVICES. WE ARE ALWAYS WORKING TOWARD IMPROVEMENT OF THOSE PROGRAMS. TONIGHT WE ARE BEGINNING A MAJOR UNDERTAKING - IN OCCUPATIONAL EDUCATION SPECIFICALLY - A GATHERING OF IDEAS, OPINIONS, QUESTIONS AND SUGGESTIONS FOR <u>WHAT STUDENTS SHOULD KNOW AND BE ABLE TO DO</u> BEFORE LEAVING AN OCCUPATIONAL PROGRAM AND <u>HOW MIGHT THAT PROGRAM BE DELIVERED</u>.

I WANT TO SEE A WIDE OPEN DISCUSSION WITH ALL IDEAS SHARED AND ALL POLITICAL AND TURF ISSUES ON THE TABLE. OUR OCCUPATIONAL DEPARTMENT IS LOOKING FOR YOUR ANSWERS AND ACTIVE SOLUTIONS TO THE QUESTIONS ABOUT

. WHAT STUDENT OUTCOMES SHOULD BE REQUIRED

. HOW TO RESTRUCTURE - RADICAL NEW APPROACHES IN ORDER TO BEST MEET THE NEEDS OF OUR STUDENTS AND BUSINESS AND INDUSTRY. FLEXIBILITY HERE IS ESSENTIAL AS IS THE CONCEPT OF LIFELONG LEARNING.

YOU SHOULD KNOW THAT YOU ARE NOT STARTING FROM SCRATCH - WE DON'T WANT TO EITHER SPIN OUR WHEELS OR RE-INVENT THEM. STATE EDUCATION DEPARTMENT, NATIONAL COMMISSIONS, AND CORNING-PAINTED POST SCHOOL DISTRICT HAVE MADE PROGRESS TOWARD OUR OBJECTIVES. YOU WILL EXAMINE THOSE AND CHANGE THEM OR ADD TO THEM OVER THE NEXT FEW MONTHS.

YOUR MISSION IS TO PRESENT TO YOUR BOCES IN MAY 1991 A SET OF RECOMMENDATIONS FOR STUDENT OUTCOMES AND INSTRUCTIONAL DELIVERY TO ASSURE EXCELLENCE AND ACCOUNTABILITY IN YOUR LOCAL OCCUPATIONAL EDUCATION PROGRAMS.

THANK YOU FOR YOUR INTEREST AND ESPECIALLY FOR YOUR WILLINGNESS TO HELP YOUR SCHOOL COMMUNITY.

APPENDIX B

TEXT OF REMARKS BY LORIN COOPER
DIRECTOR OF OCCUPATIONAL EDUCATION

COMMISSION FOR OCCUPATIONAL EDUCATION EXCELLENCE
November 1, 1990
Days Inn, Bath, NY - 4:30 P.M.

Lorin Cooper

I. The Challenge

We are in a world economy with rapidly changing technology.

-- We are no longer No. 1 in the world where our standard of living is concerned.
-- Our Educational System is NOT educating our children adequately for a career.
-- If we are to educate all of our children for careers, we must take youth from the first time they need schooling and set up systems that bring them all the way through that system until they are ready for a career.
-- That may include post-secondary education.
-- The system must consider all of the learning experiences that need to take place in life.
-- Education is a complex interaction of variables that occur in the home, the community, the school and any other environment that a child may happen to be in.

We must solve our problems or we will by omission destroy our children's future.

II. Pertinent Facts

-- $1 saves $6 when invested in saving kids - Brad Butler, (former CEO of Proctor and Gamble).
-- The average 1st grader has already spent more time watching TV than he/she will spend in school - Dr. Billington (Library of Congress).
-- 4,000 students per day leave our schools permanently. Casualties at Pearl Harbor were only 3700 or so - Brad Butler.
-- Of 105 Baldor Co. employees who were tested for the company's new education classes, 80 needed help - Fortune magazine.

-- At Motorola, 25 out of 200 employees passed a basic skills test for jobs at a new highly automated factory - Fortune magazine.
-- Data now being gathered across New York State shows that people need a higher level of skill in all areas to hold a job than they need to go to college - SED
-- An automotive mechanic needs to read at a 2nd year college level to comprehend the manuals used in that industry - SED.

In New York State the Board of Regents attempted to solve the problems of low performance with the Regents Action Plan to raise standards.

While this plan did raise the performance of some students - it also increased the dropout rate in many schools across the state.

III. Educational Philosophy

-- Human beings learn differently - that is to say there are different learning styles.

Yet we continue to use lectures and writing on the blackboard as the bulk of our teaching methods.

-- Educational Research has for years pointed out that we should be teaching for Mastery.
Yet we continue to use standardized tests as the primary way of measuring competence.

That means we develop a normal curve and somebody wins and somebody loses.

That does not promote teaching for Mastery.
-- Competencies - Much has been written on this subject showing that we need to identify the competencies a child must have to be successful and happy.

Yet we continue to tell our children go to college and you can be successful and happy.

And everything in the current educational system is measured by that 'how many went to college' scale.

IV. How will we solve this problem here in Steuben County?

-- Develop a philosophy and an educational system that allows for a continuum of education from early in life until death - Not new!

-- Stuff the turf issues that control the community's stakeholders and work together as partners with a common problem.

This will result in:

-- Business and Industry being able to hire a competent workforce - we can then compete in a world market.

-- Everyone will still have a job - even if it is different than the one they now have.

This then is how we will begin to solve the problem:

-- By those of us here working together to develop a plan that addresses the real issue. The real issue is how can we educate our children, our neighbors and ourselves so that each person can be successfully and happily employed?

You have been given an opportunity to be part of the solution.

We urge you to contribute your expertise, your feelings, your wisdom and your creative insight.

APPENDIX C

LITERATURE SURVEY

Commission for Occupational Education Excellence

(A comparison of the Commission's work to date (12/13/90) with national, state and local research on schooling in America.)

The necessity for the work of the Commission for Occupational Education Excellence is well documented as the gap widens between what graduates know and what graduates need to know. As reported by the National Academy for Leadership Development (Center on Education and Training for Employment of Ohio State University, Summer 1990).

> The United States is at a critical time in its history. Technology, demographics, and a global economy have brought about a crisis that necessitates educational reform. It is important that educators think about the workplace and the importance of utilizing workplace application as a strategy for providing relevant education for all.

To date the Commission has engaged in discussing the roles of various organizations and entities to determine what and how students should learn and the most effective means to measure learning. The Commission has essentially determined that the roles for schools and for BOCES are to define and teach basic skills based on a competency/mastery set of outcomes. There has not been a distinction between schools or BOCES other than for BOCES to emphasize technology in its basic curriculum.

The Commission's work is endorsed by much of the literature and reports on outcomes based education being produced today.

A study by the American Society for Training and Development (10/88) concluded that basic skills must be redefined in this everchanging technological world and that without basic skills, higher learning is frustrated if not impossible and the highest skill traits, such as leadership, teamwork, and creative thinking are unattainable.

The New York State Education Department's Basic and Expanded Skills - Scales for Validation Study (7/90) reached similar conclusions in citing that competency is needed for basic skills for work or for post-secondary education.

The Anderson Committee, in reporting to the New York State Board of Regents (8/90) echoed the same necessity for competency for graduates headed toward college or toward immediate employment. Here, as in nearly all current material, the committee concluded that this is not happening.

Specific to occupational education, one of six concerns of the Corning-Painted Post Area School District's Occupational Education Task Force Report (6/90) was the "...gap (which) exists between the quality of students' skills who are in job preparation programs and industry requirements".

The overwhelming solution to this widening gap, both as reached by the Commission and by related studies, is for a competency based or mastery system with student outcomes specifically determined and defined.

The Rochester Study (10/88) by the National Center on Education and the Economy recommended new standards (basic and expanded skills), but called the assessment strategy of a students' grasp of these skills the "heart" of the process.

In commenting on the New York State New Compact for Learning, the Council of School Superintendents questioned the definition of mastery and called for a well-developed vehicle for testing.

An effective delivery system for an outcomes based system will include roles for all of the groups and organizations the Commission has looked at thus far. They include schools, BOCES, business, the community and post-secondary schools.

It is interesting that except for attributing a flexible-technical aspect in BOCES role, the Commission did not see different roles for schools and BOCES. Both institutions are seen as defining and teaching basic skills in a competency based system with innovative approaches in integrating life skills.

Current thoughts on restructuring the delivery system range from the comprehensive to the conservative.

In "The Copernican Plan: Restructuring the American High School" (distributed at the 11/14/90 Commission meeting), educator Joseph Carroll touches on a wide range of restructuring options including macroclasses, seminars, differentiated diplomas, mastery, and individual education plans, all geared to teaching students with innovative and creative aids rather than merely covering classes. (Emphasis by Mr. Carroll.)

The work of the Commission in assigning roles, specifically for schools and for BOCES, is actually among the most comprehensive work done to date. A host of current literature and reports merely calls for restructuring of the educational system.

The National School Board Association's leadership report on education reform for the '90's notes that restructuring is necessary because of a "...crisis of performance..." Their ideal system involves a commitment to unlocking "...individual initiative and genius in each school".

The consensus in literature today points to flexibility as the most important item in a delivery system because of today's ever-changing-technological-global world.

A master technicians project recently modeled in Virginia to prepare master technicians in a '2+'2 program involving secondary and post-secondary schooling strived for "...maximum flexibility and (was) structured to be transportable to other curriculum areas".

A Representative of Some Current Literature, Reports and Studies, etc.

Rick Herrmann, "Basic Skills: The Business and Industry Connection", LEAD - The Newsletter of the National Academy for leadership Development, Summer, 1990.

"Saving Our Schools", Fortune Magazine, Spring 1990.

Dr. John Langrehr, Teaching Students to Think, (Indiana: National Education Service, 1988).

"The Rochester Study", National Center on Education and the Economy, Rochester, New York, October, 1988.

Corning-Painted Post Area School District, "Occupational Education Task Force Report", June, 1990.

"Workplace Basics: The Skills Employers Want", The American Society for Training and Development, October, 1988.

"Basic and Expanded Basic Skills", New York State Education Department, Draft, July 1990.

"The Report of the Anderson Committee", New York State Board of Regents, August, 1990.

"Sleeper", Comment, The Council for Educational Development and Research, August, 1990.

"Education Reform for the '90's", The School Board Agenda, National School Boards Association, 1990.

"A Secondary/Postsecondary '2x'2 Program to Prepare Master Technicians", The Virginia Peninsula Local Education Agencies.

"America's Choice: High Skills or Low Wages", National Center on Education and the Economy, June 1990.

"Labor Force 2000 11", Allstate Forum on Public Issues.

Robert Gilchrist, Effective Schools: Three Cost Studies of Excellence (Indiana: National Education Service, 1989).

Larry Drendtro, Martin Brohenley, and Steve Van Bockern, Reclaiming Youth at Risk, (Indiana: National Education Service, 1990).

"Vocational Education as Symbolic Action: Connecting Schooling with the Workplace", American Educational Research Journal, Spring, 1990.

"BOCES: A Resource for Preparing New York's Workforce", New York State Education Department Task Force Report, March, 1989.

"Students at Risk", New York State Education Department, Fall, 1989.

"Educational Leadership", October, 1990.

"A New Compact for Learning", New York State Education Department, October, 1990.

"School Improvement Principles - Draft", North Country Effective Schools Consortium, September, 1990.

James A. Kademus and Willard R. Daggett, "New Directions for Vocational Education at the Secondary Level", (Ohio: Ohio State University, 1986).

"Occupational Education and the New Realities", Capsule Report by The New York State Education Department, November, 1987.

Materials from the Governor's Conference on Workforce 2000, The Commonwealth of Pennsylvania, Carlisle, Pennsylvania, October, 1990.

"Nine Forces Reshaping America", The United Way Strategic Institute, 1989.

APPENDIX D

GRADUATE CHARACTERISTICS
(RAW DATA)

Processing Skills

Problem solving and decision making skills
Leadership skills
Ability to manage time and follow instructions
Flexibility
Creative thinking

Work Ethics

Pride in workmanship
Dependability and responsibility
Goal setting and personal management
Teamwork skills
Flexibility
Personal grooming

Communication

Articulation skills along with giving and receiving feedback
Positive self esteem and positive self concept
Teamwork skills
Leadership skills
Reading skills
Writing skills
Computer skills
Actual job related skills

Job Specific

Flexibility and ability to grow
Mastery of specific skills
Leadership and group skills
Computer literacy
Basic skills
Appropriate personal presentation
Customer oriented

Expanded Basics

Life skills
Reading
Public speaking
Writing
Related history (Industries)
Related Math
Economics

APPENDIX E

Revised 7/11.90

BASIC and EXPANDED BASIC SKILLS

Scales for Validation Study

July 1990

New York State Education Department
Albany, NY

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Introduction

This collection of skills encompasses three areas of competency needed by individuals entering the work world and/or postsecondary education. The two basic skill areas are mathematics and language arts. The expanded basics included in this study are reasoning, interpersonal skills, working as a member of a team, using information systems, setting priorities, personal work skills and behaviors, personal and civic responsibility, and manual dexterity. Other expanded basic skills, as well as other skill areas such as science, foreign language, and specialized studies in occupational education, will be addressed in the future.

For each skill, a scale has been developed describing six levels of performance, with level one being the starting point. Subsequent levels assume acquisition of most of the skills in the preceding level(s). The scales progress from:

Low	to	High
simple	-	complex
routine	-	variable
concrete	-	abstract
structured	-	unstructured
recall of knowledge	-	evaluation of knowledge
directed	-	independent
conventional	-	innovative

To help in interpreting the scales, examples of the types of tasks performed by a worker and a student at each level have been added to some scales.

LANGUAGE ARTS

Overview of Levels of Performance

1. Minimal range of subject matter
   Minimal forms and purposes of language use
   Minimal connections
   Completely dependent on models, prescriptions, and direction
   Recognition of established roles and conventions

2. Structured range of subject matter
   Structured forms and purposes of language use
   Few connections
   Highly dependent on models, prescriptions, and directions
   Frequent adherence to established rules and conventions

3. Limited range of subject matter
   Limited variety of forms and purposes of language use
   Some connections
   Somewhat dependent on models, prescriptions, and direction
   Adherence to established rules and conventions

4. Wide range of subject matter
   Wide variety of forms and purposes of language use
   Considerable ability to make connections and to generalize
   Limited independent applications
   Effective application of established rules and conventions

5. Considerable depth of subject matter across wide range of disciplines
   Selective and appropriate use of wide variety of forms and purposes
   Synthesis of insights, understanding, and knowledge across disciplines
   Independent judgment and application across broad range
   Skillful manipulation of rules and conventions

6. Complex and sophisticated material from wide range of disciplines
   Original and creative use of forms and purposes
   Original and imaginative insights
   Authority in application across broad range
   Creative use of conventions
   Metacognitive awareness

LISTENING AND SPEAKING FOR PERSONAL RESPONSE

The ability to enjoy and appreciate oral presentations and use oral language to express self and to entertain.

1. • shows an interest in listening to and telling a simple story or report

2. • listens to and comprehends detailed narratives;

   • recounts a personal experience using pauses and emphasis

3. • recognizes and expresses feelings, attitudes, and ideas evoked by an oral presentation;

   • explains responses with direction based on life experiences and values;

   • holds attention of audience and evokes a response by using effective and appropriate language

4. • identifies elements in an oral presentation that elicit personal responses;

   • explains responses by reference to significant elements of the presentation with direction;

   • evokes varied audience responses by using effective language, gesture, tone, and other presentational strategies

5.
- controls own responses to an oral presentation by consciously distinguishing between responses based on personal associations and prior experience and those elicited by elements of the presentation;
- responds to a wide range of oral presentations using own framework which recognizes the influence of personal and textual (content of presentation) elements;
- uses creative language and presentational strategies to evoke diverse audience responses

6.
- synthesizes textual elements and personal associations in responding to an oral presentation;
- responds to oral presentations using frameworks based on prior experience;
- is creative in applying a framework to a new context in order to develop a response;
- moves audience by employing original language and presentational strategies

LISTENING AND SPEAKING FOR SOCIAL INTERACTION

The ability to communicate through spoken language in everyday interpersonal situations.

1. • demonstrates attention, concentration, and courtesy;
   • contributes to discussion

2. • identifies purpose of interchange;
   • avoids interrupting;
   • uses intonation correctly;
   • contributes relevant information to a conversation;
   • begins to paraphrase;
   • takes accurate messages by recording details

3. • engages in discussion with a limited range of groups for a variety of purposes;
   • assumes an assigned role within a group and uses the level of language appropriate to that group and role;
   • recognizes and practices the conventions of behavior (e.g., social etiquette and basic rules of order) appropriate to a limited range of social groups

4. • engages in discussion with a wide variety of groups for a wide variety of purposes using appropriate language and diction;

   • expresses ideas for group consideration and accepts and incorporates ideas expressed by other group members;

   • recognizes and practices the conventions of behavior appropriate to a wide range of social groups

5. • assumes varied roles in discussions with a wide variety of groups as required;

   • influences group members through effective expression of opinions and ideas;

   • adjusts and expands own ideas and opinions by consideration of the ideas and opinions of others;

   • proposes conventions of behavior appropriate for a variety of social interactions

Listening and Speaking for Social Interaction, continued

6. • perceives the appropriate role for self in discussions with diverse groups, performing the role independently;

   • directs discussion through the expression of own opinions and ideas and through response to other group members;

   • takes the initiative in establishing and structuring groups for a variety of purposes

LISTENING AND SPEAKING FOR INFORMATION AND UNDERSTANDING

The ability to acquire, interpret, apply, and transmit information through oral language.

1. • recognizes basic descriptive details;
   • recognizes basic order of ideas;
   • follows a one-step direction;
   • conveys basic directions clearly and sequentially

2. • listens for and recalls specific details;
   • follows multi-step directions;
   • states main ideas;
   • describes situations or problems accurately using details;
   • articulates sequence, makes inferences, and predicts outcomes;
   • conveys multi-step directions

Listening and Speaking for Information and Understanding, continued

3.
- obtains and recalls essential information from oral communications;
- determines relative significance of new information;
- makes generalizations and draws conclusions based on new information to a limited degree;
- applies information to a new context, through action or articulation; to a limited extent;
- presents information clearly and logically using language appropriate to the topic and audience

4.
- obtains and recalls essential information from oral communications from a variety of sources;
- uses new information and understanding from one context to determine or articulate significance, make generalizations, and draw conclusions in a limited range of new contexts;
- presents information clearly and logically in a variety of situations

Listening and Speaking for Information and Understanding, continued

5. • incorporates new information from a variety of sources for own purposes;

   • uses new information independently to determine or articulate significance, make generalizations, and draw conclusions;

   • applies information and understanding from one context to a wide range of new contexts through action or articulation;

   • selects and organizes information and presents that information clearly and logically in a variety of situations

6. • seeks out and incorporates new information from many sources of varying complexity and synthesizes that information for own purposes;

   • shows insight and originality in making decisions about the relative significance of new information and in making generalizations and drawing conclusions independently;

   • applies information and understanding from one context to a wide range of new contexts and judges the validity and value of such applications;

   • makes judgments about the most effective ways of presenting information and understanding, and monitors and adjusts own presentations as needed

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LISTENING AND SPEAKING FOR CRITICAL ANALYSIS AND EVALUATION

The ability to evaluate and generate information and ideas according to personal and or objective criteria.

1. • interprets an oral presentation by responding to verbal clues;

   • articulates specific basic purposes

2. • judges the quality of information being received;

   • distinguishes between facts and opinions;

   • expresses personal opinion

3. • employs personal standards to assess content, organization, and delivery of a limited variety of oral presentations;

   • knows and applies with direction a limited range of objective criteria for evaluating oral presentations;

   • voices evaluations of a limited variety of oral presentations or written texts by reference to specific given criteria, using appropriate language

Listening and Speaking for Critical Analysis and Evaluation, continued

4.
- uses personal standards to assess a wide variety of oral presentations;
- knows and applies without direction a variety of objective criteria for evaluating different kinds of oral presentations;
- voices evaluations of a wide range of oral presentations or written texts by reference to specific self-selected criteria, using language appropriate to the sophistication and complexity of the material, audience, and context

5.
- uses personal standards to assess oral presentations of considerable complexity and diversity;
- evaluates diverse and complex oral presentations (e.g., political speech, keynote address, dramatic monologue, humorous skit, sermon) from a variety of critical perspectives;
- voices evaluations of diverse and complex presentations using criteria appropriate to the form

6. • recognizes the underlying assumptions and values by which he/she assesses an oral presentation;

   • tolerates and accommodates a wide range of assessments based on other assumptions and values;

   • recognizes the cultural values implicit in any oral presentation and any evaluation of a presentation, and considers multiple evaluations derived from different value systems;

   • voices evaluations of presentations from diverse critical and cultural perspectives

READING FOR AESTHETIC AND PERSONAL RESPONSE

The ability to enjoy and appreciate texts, relate texts to self, and respond sensitively to texts with diverse social, historical, and cultural dimensions.

1. • demonstrates an interest in and enjoyment of reading materials;

   • selects materials of an appropriate level

2. • demonstrates an interest in a variety of reading materials;

   • differentiates between fiction and non-fiction;

   • responds emotionally to a selection

3. • responds intellectually and emotionally to a wide variety of texts, drawing on literary and life experiences;

   • recognizes the common human experiences in literature of various cultures when specific contributions are pointed out

4. • reads complex texts in all genres, noting those elements that prompt a personal response;

   • relates responses to prior literary and life experiences;

   • perceives the common human experiences in literature of other cultures independently, recognizing the unique aspects of those cultures

Reading for Aesthetic and Personal Response, continued

5. • knows traditional forms and conventions for the literary genres;

   • identifies textual elements that produce a positive response and relates those elements to the emerging meaning of the text;

   • recognizes the aspects of past experience that contribute most to the feelings, attitudes, and ideas evoked by the text;

   • is sensitive to the differences in experiences and values that distinguish people of various cultures;

   • reads not only to learn *about* but also to learn *from* people of various cultures

6. • recognizes the way in which "cue systems" of the text help develop a response to the text;

   • selects among pertinent referents from past experience;

   • recognizes that the interaction between two sets of values or cultural codes (reader's and author's) affects the reading of a text;

   • recognizes the tension that may result from differences in cultural codes and reflects on that tension to understand own responses

READING FOR ACQUISITION, INTERPRETATION, AND APPLICATION OF INFORMATION

The ability to collect data, facts, or ideas, discover relationships, concepts, or generalizations, and use knowledge generated from text.

1. • recognizes and comprehends basic words, phrases, sentences, and paragraphs, and can apply the information to a given situation

2. • recognizes sentence structure and punctuation as organizing principles;
   • uses context to grasp meaning of unfamiliar words;
   • understands specialized vocabulary;
   • comprehends multi-step written directions and applies them in the proper sequence

3. • interprets written information from a variety of sources;
   • reads manuals and literature of limited complexity and can apply them to a given situation

4. • recognizes the relative significance of information;
   • identifies underlying concepts and makes generalizations with direction;
   • applies information and understanding from one context to a limited range of new contexts

Reading for Acquisition, Interpretation, and Application of Information, continued

5. • organizes new information to support decisions;

   • makes generalizations and identifies underlying concepts independently;

   • applies information and understanding from one context to a wide range of new contexts

6. • extracts and synthesizes information collected from a wide range of sources of varying complexity;

   • applies information and understanding to a wide range of contexts and makes judgments about the validity and value about such applications;

   • uses originality and insight to make generalizations and draw conclusions

READING FOR CRITICAL ANALYSIS AND EVALUATION

The ability to use personal and/or objective criteria to form opinions or to make judgments about ideas and information in written texts.

1. • judges a text to be fiction or non-fiction;

   • expresses an opinion about reading material

2. • articulates an opinion about the author's purpose or point of view;

   • evaluates text and differentiates between fact and opinion

3. • assesses the accuracy, validity, and significance of written texts from own point of view;

   • knows and can apply a limited range of criteria for evaluating literary texts with direction

4. • assesses objectively the accuracy, validity, and significance of written texts from a variety of disciplines;

   • can apply a variety of criteria appropriate to the context without direction

5. • formulates criteria, both personal and objective, for assessing the information and significance of a wide range of texts;

   • evaluates genres of literary text from a number of given critical and cultural perspectives

6. • recognizes the underlying assumptions and values by which he/she assesses information and the significance of texts;

   • is able to tolerate and accommodate a wide range of assessments based on other values and assumptions;

   • recognizes the cultural values implicit in any text and any critical evaluation of the text;

   • considers multiple evaluations of a text derived from different value systems;

   • can criticize a literary text from diverse critical and cultural perspectives

WRITING FOR PERSONAL EXPRESSION

The ability to use all the forms of writing to investigate and express personal feelings, attitudes, and ideas.

1. • writes with an awareness of the relationship between spoken and written language

2. • writes about emotions, ideas, and personal experiences;

   • recognizes relationship between reading and writing a reaction

3. • writes in a variety of forms and uses language effectively to investigate and communicate personal feelings, attitudes, and ideas to a variety of audiences, using models and directions

4. • selects and uses appropriate forms for investigating and expressing feelings, attitudes, and ideas associated with particular experiences;

   • uses metaphorical and/or analytical language as appropriate to communicate feelings, attitudes, or ideas about a wide range of experiences to a variety of audiences

5. • uses prior knowledge of a wide range of literary and life experiences to investigate and express feelings, attitudes, and ideas related to a particular experience;

   • makes creative and effective use of language and structures to explain or form images of experiences and to imagine alternatives and connections;

   • communicates experiences to a variety of audiences in a way that recreates the particular feelings, attitudes, and ideas of the writer

6. • devises new forms for writing to investigate and express personal feelings, attitudes, and ideas;

   • synthesizes new and prior experiences through effective use of language and structures;

   • uses metaphorical or analytical language to distinguish feelings, attitudes, and ideas in a specific situation from previous experiences and the experiences of others

WRITING FOR SOCIAL INTERACTION

The ability to use all the forms of writing to communicate in everyday interpersonal situations.

1. • writes to communicate ideas to another person with direction;

   • recognizes conventions of standard English

2. • engages in pre-writing activities;

   • initiates writing to communicate ideas to an audience;

   • uses varied grammatical structures and vocabulary;

   • recognizes and writes in some rhetorical forms (narrative, descriptive, expository, and persuasive);

   • uses standard English

3. • uses all rhetorical forms;

   • implements conventions and structures appropriate to the form, purpose, and audience with direction;

   • makes appropriate use of diverse grammatical structures, vocabulary, and chosen style;

   • uses standard English competently

Writing for Social Interaction, continued

4. • writes effectively in a wide range of forms for a variety of purposes;

   • makes an assured and selective use of the conventions and structure appropriate to the form, purpose, and audience;

   • uses a wide range of grammatical structures and an extensive vocabulary to achieve an individual style;

   • uses standard English skillfully

5. • uses all rhetorical forms creatively for a wide variety of purposes;

   • shows originality in adapting conventions and structures to the particular form, purpose, and audience;

   • achieves pleasing or striking effects by the selective use of grammatical structures and vocabulary;

   • manipulates the conventions of standard English for effect

6. • devises and implements strategies for new forms of social correspondence, incorporating elements of traditional forms where desirable and judging their effectiveness;

   • uses grammatical structures and vocabulary to a high degree of sophistication;

   • analyzes and assesses own writing

WRITING FOR INFORMATION AND UNDERSTANDING

The ability to interpret, apply, and transmit information in writing.

1. • writes legibly with recognizable words;

   • is able to put words in sentence formats

2. • communicates ideas using several sentences, constructed logically;

   • uses standard English and correct spelling, punctuation, capitalization, and grammar with some proficiency

3. • writes cohesive and purposeful paragraphs that develop a logical sequence of ideas for application to a limited range of situations and to a particular audience;

   • arranges information in a hierarchy of significance, makes generalizations, and draws conclusions

4. • writes cohesive and purposeful paragraphs that demonstrate a logical and informed sequence of ideas for application to a variety of given tasks;

   • uses vocabulary and grammatical constructions skillfully as communication tools

Writing for Information and Understanding, continued

5. • uses a range of writing styles effectively and appropriately for the purpose, situation, and audience;

   • presents information selectively, making independent decisions as to its application

6. • writes in unique and effective ways, skillfully employing conventions of standard English to illuminate purpose;

   • displays a high level of writing skill in areas of specialized knowledge

WRITING FOR CRITICAL ANALYSIS AND EVALUATION

The ability to use personal or objective criteria to express opinions and make judgments in writing about issues, ideas, and experiences.

1. • engages in process-writing steps (pre-writing, organizing, drafting, revising) to present information in a logical order;

   • uses conventions of standard English

2. • writes with a recognizable purpose;

   • supports opinions by providing details;

   • uses sentences and language effectively

3. • investigates and analyzes issues and ideas from a limited variety of disciplines;

   • evaluates the significance, validity, and applicability of particular ideas and facts using given criteria;

   • uses conventions and structures appropriate to the form, purpose, and audience with direction;

   • makes appropriate use of a wide range of grammatical constructions and vocabulary;

   • uses standard English competently

Writing for Critical Analysis and Evaluation, continued

4. • investigates and analyzes issues and ideas from a variety of disciplines, making appropriate connections among disciplines;

   • articulates the assumptions and values on which judgments are based;

   • examines assumptions and values from a variety of perspectives;

   • makes an assured and selective use of conventions and structures appropriate to the form, purpose, and audience;

   • uses a wide range of grammatical constructions and vocabulary to achieve an individual style;

   • uses standard English skillfully

5. • synthesizes understandings from a variety of disciplines or sources in analyzing a broad scope of issues and ideas;

   • recognizes the ideological assumptions underlying a wide range of issues and perspectives;

   • acknowledges personal areas of consonance and dissonance with other perspectives;

   • shows originality in adapting conventions and structures to particular subject matter, form, purpose, and audience;

   • manipulates vocabulary and the conventions of standard English for pleasing or striking effects

Writing for Critical Analysis and Evaluation, continued

6. • makes judgments about the relative validity and applicability of particular criteria for analyzing complex issues and ideas;

   • recognizes and tolerates valid perspectives about diverse issues and ideas;

   • makes informed selection of an appropriate perspective based on the context;

   • uses creative and insightful strategies appropriate to the immediate context

BASIC OPERATIONS

e ability to perform basic operations of mathematics.

- adds, subtracts, multiplies, and divides whole numbers, fractions, and decimals with or without using a calculator.

  The billing clerk verifies the sums on an in

  The student, given a set of problems involv basic operations, finds answers to the proble

- selects the basic operation required to solve a particular problem

  The stock clerk in a small business determin the inventory value of all items in stock, giv the cost of each item.

  The student determines the value of money a collection of coins.

- applies a combination of addition, subtraction, multiplication, or division to solve problems presented in narrative form

  The sales clerk in a small retailing business marks up merchandise as a percentage of th cost.

  The student determines the sales tax for a se of purchases.

- checks the solution to a problem for its rationality

  The electric meter reader knows to check for faulty meter when an increase of 2000 KWH shown for a home which typically shows a 3 KWH increase.

  The student recognizes that a solution of $44 per 100 items is unreasonable if the items ar listed as $.44 per item.

- makes a generalization which will apply to all similar data

  The accountant determines by looking at the balance sheets and income statements which items can fluctuate in price so that the comp will operate at a higher profit.

  The student determines the amount of candy bars needed for an upcoming sports event by looking at previous sales at similar sports eve

- states whether a problem does or does not illustrate a generalization

The lawn service person determines the proper mixture of fertilizer to use on a lawn after the needs of the lawn have been evaluated.

The student recognizes and writes a series of equivalent fractions.

LOGIC

The ability to use reasoning to determine relationships among propositions in terms of implication, contradiction, contrariety, and conversion.

1.	• knows that some relationships exist between two or more things	*The maintenance worker, noticing a puddle on the floor beneath a series of pipes, determines which valve to turn off to stop the leak.* *The student sorts a set of numbers to subsets of odds and evens.*
2.	• explains the relationships between two or more things	*The secretary trains a new employee in a job situation.* *The student explains a solution of a multi-step problem to another student.*
3.	• uses the relationships to reach a conclusion (solution)	*Knowing fuel consumption and capacity as well as operating conditions, the worker draws up a maintenance schedule for a series of machines.* *Given a problem with superfluous and/or incomplete data, the student solves the problem.*
4.	• examines the conclusions to be sure they reflect the given relationships	*The telephone technician takes apart a faulty telephone in order to determine the cause of the breakdown.* *The student traces the steps in a newly created computer program to discover why it will not work.*
.	• creates new situations using similar relationships	*The machine operator repairs a piece of equipment that has not been usable before.* *The student figures out area, perimeter and/or volume of irregular geometric forms.*

Logic, continued

6.	• predicts outcomes based on similar relationships	*An employee, after collecting and analyzing d... on employee performance, presents the argume... to management for changing assembly area ne... in order to improve efficiency.* *The student recognizes patterns and determines subsequent elements of a sequence.*

7.4

PROBABILITY

'e ability to predict the number of times something will probably occur over the range of possible currences.

- recognizes chance events

  The manager in Rhode Island does not triple the company's earthquake insurance upon hearing of a San Francisco earthquake.

  The student recognizes that if a coin is flipped it will either land heads or tails.

- defines the chance event in terms of a ratio or a percent

  The meteorologist states the probability of rain tomorrow as 15%.

  The student describes the chances of selecting an odd number from the set (1, 3, 4, 5) as 3/4.

- uses the simple probability of an event to determine the number of times the event will occur in a given number of trials

  The regional manager studies the inventory sales data from two stores in the county to determine inventory for all stores in the county.

  The student knows that if an event occurs 3/5 times, it should also occur 12/20 times.

- compares experimental probability with theoretical probability

  The buyer for a company questions why pieces of equipment with a one-year guarantee habitually break down.

  The student knows that a fair coin should flip heads half the time, but recognizes that in an experiment of flipping the coin 80 times, 45 heads is not unreasonable.

- constructs a model or conducts an experiment to simulate an event over a significant number of trials

  The city engineer creates a computer program to simulate the flow of water from point A to point B through the city's five pumping stations, given the probability that one or more of the five pumping stations may fail.

  The student designs a computer game which will record how often the computer wins the game against an opponent in order to determine odds on the opponent's chance of winning.

6.	• evaluates predictions based on outcomes of a probability model	*The news reporter predicts the outcome of a national election based on a sample of the voting population.* *The student predicts who will win the game between the computer and an opponent based on data collected from the previous games.*

STATISTICS

The ability to assemble, classify, tabulate, and analyze numerical facts or data.

1. • collects, sorts, and classifies data

   The chef records the kind and quantity of sandwiches served at lunch time.

   The student polls people on a particular topic, and organizes and classifies the data.

2. • calculates basic statistical data

   • presents data on charts, graphs, diagrams, and/or tables

   The chef represents on graphs data on the kind and quantity of sandwiches served during lunch time.

   The student collects daily temperature data and represents the data in graph form.

3. • analyzes and examines relationships among the represented data

   The stock market analyst studies the data in a table which shows highs and lows of a stock ov a five-year period to determine the highest/lowes price that the stock sold for over the given time period.

   The student studies the data in a pie graph and computes the percentage of the whole for each piece of data in the graph.

4. • does statistical analyses of trends, relationships, oddities, extremes, and special needs

   The police officer examines data concerning crime in the city to investigate the increase or decrease of specific crimes.

   The student reviews data collected on student attendance to determine which days are missed most often in a one-year period.

5. • makes inferences based on data

   The doctor determines from the family medical history the likelihood of the patient having a disease related to heredity.

   The student notices that his grades always fall i the upper quartile, and decides that a three-day trip to Washington, DC, in the middle of the week should not affect his grades.

Statistics, continued

6.	• makes decisions based on inferences made from data	*An employee determines that since 150 out of 200 parking slots are used by customers on an given day, the remaining 50 slots could be sold to neighboring office employees for monthly parking.* *The student decides to quit smoking based on statistics which show that smoking increases anxiety level, which affects performance.*

MEASUREMENT

The ability to determine size, extent, and quantity using standard and metric systems.

1.	• arranges units of measure in order of size	*The stock person arranges all the clothing on racks according to size.* *The student arranges measuring cups according to size.*
2.	• understands such qualities as length, capacity, weight, area, volume, time, temperature, and angles • examines measurements for degree of accuracy	*A carpet installer wishes to find the cost of carpeting several rooms in a home. She has the dimensions of each room in feet. Carpeting is priced at cost per square yard. Therefore, she converts the dimensions to square yards.* *The student converts five kilometers to 5000 meters in order to determine the number of meters in five kilometers.*
3.	• chooses and uses proper measuring devices to calculate measurement	*The carpenter uses a tape measure in preparation for installing a cabinet.* *The student uses cubic measure to find the volume of a solid.*
4.	• knows and can apply proper conversions for length, capacity, weight area, volume, time, temperature, and angles	*A quality control worker selects a random number of packages to check for proper weight of food in the packages, and determines weight to be within a specific tolerance level.* *The student measures a board to the nearest millimeter before cutting the board for a shelf.*
5.	• develops procedures for using measurement in job situations	*The painter develops a method to determine the amount of paint needed to cover specified surfaces.* *The student develops a method for finding the surface area for rectangular prisms.*

Measurement, continued

6.	•	determines the unit of measure appropriate to the items being measured	*The draftsman uses the centimeter to make a scale drawing of a proposed house.* *The student selects the meter as the proper unit of measure to find the height and length of the classroom.*

1. • performs basic operations with real numbers and polynomials

2. • solves equations and inequalities for rational and irrational roots

3. • applies algebraic skills in relating parallel lines cut by a transversal with associated angles

4. • uses the Pythagorean Theorem and special right triangle relationships

5. • solves verbal problems algebraically involving area, perimeter, and volume of geometric figures

6. • correlates the graph of linear functions with the algebraic concept of direct variation

EXPANDED BASICS

MANUAL DEXTERITY

The ability to apply psychomotor, cognitive, and affective skills in the execution of manipulative activities.

1.	• performs simple, repetitive, movement functions with minimal direction	*A janitor removes trash under supervision within a consistent environment.*
2.	• performs functions requiring limited complex movements and minimal use of senses and reasoning • uses simple tools, instruments, and/or machines	*A nurse's aide performs patient care involving washing, transfers from bed to wheelchair, and ambulation.*
3.	• performs multiple psychomotor functions requiring both simple and complex spontaneous movements and increased use of senses • uses instruments, tools, and/or machines skillfully	*An automotive repair technician aligns the front end of a vehicle by using alignment equipment to determine the variance, making the required adjustments, and rechecking the alignment.*
4.	• performs multiple psychomotor functions requiring extensive use of senses and complex movements	*A farm manager assists a cow in delivering her calf.*
5.	• performs a broad range of sensory supported kinetic functions requiring high levels of eye-hand coordination, fine motor skills, conceptual understanding, and technological problem solving	*A pilot maneuvers an aircraft to the correct altitude using flight controller directions, feedback from instruments, and correct safety procedures.*

6.	• performs a broad range of sensory developed kinetic functions requiring precise eye-hand coordination and fine motor skills, and supported by high level cognitive and conceptual understanding	*A vascular surgeon removes a vein from a patient's thigh and uses it to replace one in the patient's leg to increase circulation.*

REASONING

The ability to draw conclusions through the use of rational processes.

	Descriptors	Examples
1.	• has the commonsense understanding to carry out simple one- or two-step instructions in the context of highly structured situations; • makes simple inferences based on available facts/input; • classifies information and/or makes connections between given facts or events within scope of assigned tasks	*The administrative assistant is asked to key-enter a memorandum addressed individually to the members of the executive staff; addresses are on file.* *The student is asked to extract materials on a specific topic from two identified resources to satisfy an assignment.*
2.	• has the commonsense understanding to carry out detailed but uninvolved instructions where the task involves a few concrete variables; • recognizes when data are insufficient to draw inferences; • analyzes given information and seeks additional facts in order to draw inferences;	*A home health aide makes a judgment, based on unanticipated condition of the patient, to withhold scheduled medication pending contact with supervisor.* *A student, when presented with a case problem and potential reference materials, recognizes the insufficiency of the materials and seeks additional facts in order to make a recommendation.*

Reasoning, continued

3.	• has the commonsense understanding to carry out somewhat complex instructions where the task involves several specific variables ; • is able to sequence steps essential to solution of a problem; • sequences facts in logical order; • makes estimates based on concrete facts	*A travel agent is asked to make arrangements, within budget limitations, for ten executives from different cities who are gathering for a three-day conference.* *A student in early childhood education is directed to plan and implement a mix of activities for a half-day session to enhance social development.*
4.	• has knowledge of a system of interrelated procedures; • applies principles to solve practical, everyday problems; • finds relationships among variables; • interprets a variety of instructions for a task furnished in oral, written, diagrammatic, or schedule form	*A first-line supervisor in a retail store is given instructions pertaining to pricing, layout, advertising, staffing to prepare his or her department for the spring line.* *An accounting student prepares comparative financial statements in order to draw relationships between sales volume and expenditures for a given business.*
5.	• applies principles of logical or scientific thinking to define problems, collect data, establish facts, and draw valid conclusions; • reaches conclusions or makes estimates based on limited or restricted availability of data; • is able to interpret an extensive variety of technical material in books, manuals, texts, etc.	*A computer programmer must debug a complex program for a customer.* *A student of economics must evaluate the implications of the Pacific Rim economies on global markets.*

Reasoning, continued

6.	• applies principles of logical or scientific thinking to a wide range of intellectual and practical problems; • understands the most difficult classes of concepts; • applies knowledge of a field of study of the highest abstractive order (e.g., mathematics, physics, chemistry, logic, philosophy, art criticism); • assimilates a wide variety of conflicting information and draws conclusion	*A researcher investigates job satisfaction in the workplace and makes recommendations to enhance productivity.* *A graduate student investigates genetic alteration to plants and publishes results in a scientific journal.*

INTERPERSONAL SKILLS

The ability to interact effectively professionally and socially.

Descriptors

1. • tolerates others;

   • refrains from causing conflict when faced with potentially difficult interactions

2. • conducts oneself with courtesy and tact;

   • provides positive feedback to others

3. • recognizes and handles own routine interpersonal problems while respecting cultural, gender, and ethnic diversity

4. • is empathetic when providing negative criticism;

   • reacts constructively to positive and negative criticism;

   • diffises anxiety in others when dealing with controversial information or unsettling events

5. • is sought out often by others for advice in interpersonal conflict situations;

   • uses a variety of approaches for handling conflict;

   • deals with personal conflicts objectively

Interpersonal Skills, continued

6. • helps others to resolve interpersonal differences

   • fosters an atmosphere of harmony among individuals

   • serves as a role model in formal and informal interactions

WORKING AS A MEMBER OF A TEAM

The ability to conduct oneself according to the expressed or unexpressed norms of a group and to participate according to one's talents.

1. • is able to work with others;
   • interacts positively through verbal/nonverbal communication with other group members

   A carpenter makes suggestions for simplifying a construction project which are well received by coworkers.

   A student works cooperatively with classmates in the implementation of a sales demonstration project.

2. • recognizes and accepts the particular capabilities of team members;
   • compliments, encourages, and expands on input of others;
   • raises questions to clarify comments of others

   A scriptwriter solicits and incorporates input from cowriters in recognition of their exceptional creativity.

   A member of a student drama society encourages other thespians to participate in support activities essential to the club's stage production.

3. • is actively involved in group;
   • takes responsibility for tasks and follows through;
   • reports on progress on assumed tasks;
   • accepts temporary leadership roles when necessary

   A landscape gardener accepts responsibility as one of a team of three for developing ideas to beautify the village park.

   A student volunteers to keep minutes for the special task force on dormitory regulation and to report recommendations to the student senate.

Working as a Member of a Team, continued

4. • recognizes that each member has something special to contribute;

   • encourages divergent points of view and full communication;

   • introduces group techniques to promote full participation of all team members;

   • solicits expert opinion;

   • conducts and reports on research

A shop steward encourages union members with good organization and communication skills to speak up during strategic planning meetings.

A student organizes a "think tank" to develop ideas for capitalizing on student cultural and ethnic diversity throughout the campus.

5. • prepares a group plan of action to address issues;

   • involves oneself in carrying out group plan;

   • applies outside resources to team objectives

A sales manager convenes the regional sales managers to prepare and implement a plan for doubling company sales through regional product differentiation and inter-regional competition.

A student involves outside consultants and student leaders to develop a plan for enhancing campus sensitivity to the hazards of drug and alcohol abuse.

6. • analyzes viewpoints and expresses commonalities for a cohesive group point of view;

   • presents a synthesis of ideas and contributions;

   • achieves maximum participation of each group member.

A newspaper editor prepares a report to be delivered to the legislature encapsulating viewpoints from various community constituencies regarding the effects of environmental pollution.

A student organizes campus leadership to gather suggestions for a presentation to the city council on community/student cooperation in modifying policy on off-campus housing restrictions.

USING INFORMATION SYSTEMS

The ability to gather, manipulate, retrieve, analyze, and synthesize data.

1. • copies or posts data for later use;
   • enters and retrieves data

   A stock handler enters the stock numbers and quantities of merchandise received in the computerized inventory system.

   A student registers for fall classes by entering requested personal and course numbers on a computer terminal.

2. • accesses information from a variety of sources with direction;
   • can locate records in computer and manual files

   A paralegal locates all cases relating to medical malpractice through the services of Lexis and Black's Dictionary.

   A student locates a book on ethics in a computerized library catalog, a report of a Presidential panel on ethics in the governmental index on CD-ROM, and a monograph on ethics in the Social Sciences Index on CD-ROM.

3. • codes information or converts information back to original form;
   • identifies key words for cross-referencing;
   • uses a system of principles, rules, or symbols to translate data

   An accounting clerk codes customer invoices with account numbers for entry into the appropriate subsidiary ledgers.

   A student majoring in German retranslates an attitude survey to English to ensure that the original translation to German retained the initial meaning of the survey.

Using Information Systems, continued

4. • selects appropriate information and appropriate system(s) for a task;

   • specifies relationships among topics and items in an information system;

   • arranges data in some meaningful order by gathering, grouping, or classifying;

   • aggregates and organizes data into a usable body of information

A salesperson prepares to make a presentation to a firm by gathering data electronically through the firm's subscription to an on-line newspaper clipping service, Dow Jones reports, and Standard and Poor's Register.

A student of finance prepares a report from library sources pertaining to mergers and acquisitions representing political, legal, and economic perspectives.

5. • analyzes data or information;

   • identifies underlying principles or facts by breaking down information into component parts;

   • interprets output from an information system;

   • prepares data for presentation

A manager, wishing to expand production capacity, prepares a presentation, which includes charts, for the board of directors by accessing computer databases containing production data and sales and economic forecasts.

A student analyzes computerized survey data through the use of a statistical program and presents the results in chart and graphical format.

6. • synthesizes or integrates information from two or more sources to establish new facts, hypotheses, theories, or a more complete body of related information

A scientist applies pure research to the environmental waste problem, resulting in the utilization of heretofore discarded materials.

A student researcher investigates theories of learning and proposes and tests a new method for teaching the mentally ill.

SETTING PRIORITIES

The ability to make judgments regarding relative criticality of tasks in order to accomplish objectives and/or meet deadlines.

1. • devises a realistic plan with direction to accomplish stated objectives within a limited sphere of responsibility;
   • analyzes tasks according to importance and deadlines;
   • plans for interruptions

A billing clerk, instructed to update customer files, sends invoices first, works on customer files next, and then responds to telephone calls that have been held during that day.

A student maintains a weekly and semester plan to complete short- and long-term assignments, taking into account such things as temporary unavailability of specific resources and need for consultation with instructors.

2. • devises a plan of action involving input from others to accomplish a task with a limited number of variables;
   • accomplishes a task within a prescribed timeframe

A medical assistant obtains a list of the appointments for the day, pulls the patients' records, and assembles relevant materials as requested by the professional staff before office hours begin.

A student prepares a plan for a student organization membership drive during the first month of the semester taking into account school schedules and availability of student members and faculty advisor.

3. • readjusts plans as a result of intervening events;
   • anticipates and communicates when deadlines cannot be met;
   • helps others to establish realistic priorities

An automobile mechanic, upon finding an additional problem with a vehicle that was not diagnosed and will result in a delay while obtaining needed parts, contacts the supervisor and/or customer and reschedules work for the day.

A student, recognizing potential motivational problems by setting the organization's charity fund drive goal too high, argues forcefully to increase the amount of time allocated to realize the goal.

Setting Priorities, continued

4. • synchronizes priorities for accomplishing a task involving a number of variables and individuals/groups

A supervisor assembles a team of data processing repairers, installers, and customer representatives to determine a timeline for a major conversion to a new system while maintaining operation of critical tasks during the conversion.

A student prepares for his or her student teaching experience by obtaining housing, securing transportation, contacting the cooperating teacher, identifying classes to be taught, gathering appropriate materials, and planning the daily classroom assignments.

5. • devises a sequence of activities for a multifaceted project requiring extensive planning and scheduling

A financial analyst prepares alternatives for the use of a firm's retirement funds, weighing such considerations as economic trends, legal restrictions, timing, diversity, and company demographics.

A graduate student develops a concept for a research project, proposes methodology, designs instrumentation, and identifies alternative sources of funding.

6. • identifies and ranks projects/issues having critical implications to a broad constituency;

• gains cooperation of competing interests to achieve goals

The community leader of a Chamber of Commerce establishes a program for the year to engage the various town, city, county, and state political representatives in a concerted effort to enhance economic development of the region.

A student organizes a multi-year campaign in support of the administration's efforts to enhance the image of the institution in the eyes of potential employers, the community, high school students, alumni, and others.

PERSONAL WORK SKILLS AND BEHAVIORS

The ability to apply one's efforts systematically and conscientiously to required tasks.

1. • assumes responsibility for completing assigned tasks on time;
   • follows organization guidelines and/or procedures;
   • is punctual and prepared for work/class;
   • respects policies regarding absenteeism;
   • is appropriately dressed and groomed

   A paralegal prepares a case abstract as directed by a lawyer to meet the trial date.

   A student regularly attends classes and meets assignment due dates in order to maximize his/her learning opportunities.

2. • is sensitive to the needs and rights of others with whom one interacts to accomplish a task;
   • organizes tasks and time effectively;
   • works productively amid confusion and distractions

   A licensed practical nurse takes the necessary care to follow physician's orders for each patient and treats all patients with dignity.

   A student meets deadlines by scheduling library assignments at times when the demand for reference materials is not at its peak.

3. • is flexible in adapting to changing conditions;
   • reorganizes priorities in order to achieve goals;
   • is able to profit from positive and negative criticism

   A chef reschedules off-peak food preparation activities to accommodate a busload of customers.

   A student asks her parttime employer to adjust her hours periodically to accommodate changing academic demands so that she can maintain her income while fulfilling her academic responsibilities.

Personal Work Skills and Behaviors, continued

4.	• keeps interrelationship of peers' responsibilities in mind when organizing own tasks; • can work on several projects concurrently	*An electrician schedules his or her work to accommodate carpenters, plumbers, and other laborers on two concurrent home renovation projects.* *A computer science student juggles his or her laboratory assignments to take advantage of available equipment and accommodate the time constraints and research deadlines of coworkers on the project.*
5.	• seeks ways to improve work performance and personal effectiveness; • is able to assist others in their work in addition to fulfilling own responsibilities	*A registered nurse enrolls in hospital-sponsored courses designed to teach new nursing techniques that are to be passed on to subordinates.* *A student agrees to tutor two international students experiencing difficulty understanding class reading materials while at the same time reinforcing his/her own knowledge.*
6.	• operates with an exemplary degree of efficiency in organizing and managing work • is sought after to assist others in learning how to achieve maximum proficiency	*A farm manager is widely recognized for innovative crop management techniques and is a popular speaker at farm association meetings.* *A student is in constant demand on campus to assist student groups in organizing and managing their finances.*

PERSONAL AND CIVIC RESPONSIBILITY

Accountability for one's actions and fulfillment of one's duties as a citizen.

1.	• accepts responsibility for own actions; • exercises rights in a democratic society	*An automobile mechanic admits having failed to tighten the lug nuts on a wheel of a car during a tire change and offers to reimburse the customer for resulting damages.* *A student acknowledges having breached dormitory curfew regulations and requests that the dormitory council determine the appropriate penalty.*
2.	• explores issues in order to formulate a position; • devotes energy to causes from local to global level	*A hospital orderly takes responsibility for self and other employees for strict adherence to hospital regulations to avoid inadvertently carrying disease organisms to others.* *A student volunteers to serve on the campus Community Welfare Drive organized to purchase food and clothing for needy families.*
3.	• takes responsibility for the welfare of family and others; • serves on community committees; • commits oneself to issues of personal importance	*A registered nurse requests transfer to the AIDS ward of a hospital after having weighed the hazards and his/her obligation to hospital patients.* *A student initiates a campus crusade to help other students understand the potential hazards to self and society of driving an automobile when under the influence of alcohol.*
4.	• helps to develop personal responsibility and growth in others; • chairs community committees; • takes responsibility for the goals/outcomes of committees	*A teacher offers to chair a ten-member community committee to solicit donors to the American Red Cross blood bank.* *A student organizes a national drive to rid all chapters of his fraternity of pledging abuses.*

Personal and Civic Responsibility,continued

5.	• formulates, supports, or pursues legislation for the improvement of society;	*A human services worker promotes legislation to provide adequate housing for indigent members of the local community.*
	• promulgates community initiatives to benefit others	*A student forms a campus organization to persuade the administration to transfer investments to companies that practice environmental responsibility.*
6.	• dedicates one's life to serving others through altruistic deeds;	*A lawyer provides professional services without charge to destitute individuals in his/her community.*
	• aspires to/runs for public office	*A student seeks election to the town board of supervisors as a means of assuring voting rights for the student population.*

INTERVIEW QUESTIONNAIRE

Company/Organization _____

Name of Employee _____

Job/Title _____

Level of Education Required for this Position _____

Name of Evaluator _____ Date _____

DESCRIPTION OF DUTIES PERFORMED:

What duties or major activities do you perform to accomplish your job? If you divided your work into the 4 or 5 most important things you do, how would you concisely describe them? Tell me first the most important thing you do and then those that are of lesser importance. Additionally, estimate the appropriate percentage of time you spend performing each of these duties.

Duties	Percent of time

DESCRIPTION OF JOB SPECIFIC SKILLS NEEDED:

1. What skills did you need to get your job?

2. What additional skills do you need to keep your job?

DESCRIPTION OF TASKS PERFORMED IN DUTY # _____

For this duty:

(1) describe the tasks or work operations that are involved in performing the duty and
(2) describe the equipment you work with, the reports you prepare, the people you deal with, and the material resources for which you are responsible.

Name of Employee: _____

Language Arts Skills

A. -Listening/Speaking for:

Personal Response
Social Interaction
Information & Understanding
Critical Analysis & Evaluation

B. Reading for:

Personal Response
Information & Understanding
Critical Analysis & Evaluation

C. Writing for:

Personal Expression
Social Interaction
Information & Understanding.
Critical Analysis & Evaluation

Mathematics

A. Basic operations
B. Logic
C. Probability
D. Statistics
E. Measurement

Extended Basics

A. Manual Dexterity
B. Reasoning
C. Interpersonal skills
C. Working as a member of a team
E. Using information systems
F. Setting priorities
G. Personal work skills and behaviors
H. Personal and civic responsibilities

APPENDIX F

SPECIFIC STUDENT OUTCOMES
FROM THE CORNING-PAINTED POST AREA SCHOOL DISTRICT'S
OCCUPATIONAL EDUCATION TASK FORCE REPORT
(JUNE, 1990)

I. Student Outcomes - Program recommendations must assist the student in learning the following:

A) Mathematics Skills - the student will be able to:

1) Add, subtract, multiply, and divide all units of measure.

2) Perform the four operations with decimals and fractions.

3) Compute ratio; rate, and percent.

4) Draw and interpret all types of graphs and data charts.

5) Calculate surfaces, volumes, weights, and measures.

6) Calculate variables and formulas.

7) Use the scientific calculator, including all of the functions.

8) Apply the above skills in practical, work related situations.

B) Science Skills - The student will be able to:

1) Understand the basic sciences and their relationships to the world, including biology, physics, earth science, and chemistry.

2) Understand the relationship of scientific method and thinking to problem-solving in the work place.

3) Understand the relationship between science knowledge/concepts and the world of work.

4) Apply scientific knowledge and thinking processes to an occupational field.

C) Reading Skills - The student will be able to:

1) Look up unfamiliar words in a dictionary for meaning, spelling, and pronunciation.

2) Read and comprehend novels, and magazine and newspaper articles.

3) Demonstrate broad reading experience for the following purposes:

   a. to respond as a discriminating reader
   b. to analyze and effectively communicate the characteristics of literary genre
   c. to compare, contrast, and evaluate various literary types.

4) Demonstrate capacity to read for the following purposes:

   a. for acquisition, interpretations, and applications of information
   b. for aesthetic and personal response
   c. for critical and evaluative decision making.

5) Read in job-related situations, such as:

   a. Read safety rules.
   b. Read instructions in the use and maintenance of tools and equipment.
   c. Where applicable, read blueprints of all types and levels of complexity and relate to the job or work.
   d. Read industry training manuals.
   e. Read graphic representations, other than blueprints.

D) <u>Writing Skills</u> - The student will be able to:

1) Write compound and complex sentences.

2) Demonstrate a legible writing style.

3) Write reports and short essays in an organized fashion, including main ideas and conclusions, with proper format, punctuation, spelling, and grammar.

4) Demonstrate the capacity to write for the following purposes:

   a. to express self
   b. to narrate
   c. to explain
   d. to describe

5) Demonstrate the capacity to write the following products:

a. letters
b. poems
c. narration
d. reports
e. description
f. persuasion
g. exposition
h. resume'
i. cover letter for job search

E) Speaking Skills - The student will be able to:

1) Speak clearly, distinctly, and with a well-modulated voice.

2) Speak with correct pronunciation, variation in word order, using various tenses.

3) Speak correct English.

4) Demonstrate the capacity to listen and speak for the following purposes:

a. for social interaction
b. for information and understanding
c. for critical purposes
d. for pleasure
e. for job interviews

5) Demonstrate language usage as a matter of appropriateness and social acceptance.

F) Computer Literacy and Keyboarding Skills - The student will be able to:

1) Turn on a computer and boot a disk.

2) Type short letters, notes, and messages.

3) Use several command keys to operate an established program.

4) Understand and demonstrate the use of widely used spreadsheet, data base, and word processing function software; such as Lotus 123, D-base, and WordPerfect.

5) Demonstrate knowledge of computer applications and the computer as a tool.

6) Understand and demonstrate operating systems such as DOS, OS/2, and VMS.

G) Leadership, Teamwork, Problem Solving, Communication Skills - The student will be able to:

1) Work as a member of a team.

2) Understand and participate in group dynamics.

3) Exhibit leadership behavior.

4) Engage in problem solving strategies.

5) Communicate ideas and suggestions to a group in constructive ways.

6) Analyze problems for data needed for solution.

7) Analyze all pertinent data needed for problem solving.

8) Demonstrate quality work behavior.

9) Demonstrate the ability to adapt thinking and work behaviors to fit a variety of work situations.

APPENDIX G
SAMPLE STUDENT SCHEDULE

This sample schedule displays how a student could have a diversity of educational experiences combining vocational and academic components and, in some cases, blending them in a particular module -- such as in Technical Communication (English and Technology).

Also note the sample schedule is in place for any specific term as necessary. A course such as Course III would continue throughout the year while others could terminate and new ones could commence as proficiency is achieved.

TERM NUMBER 1

STUDENT 'A'

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	
TECHNICAL INDUSTRIAL COMPONENT	USE OF COMPUTERS CAD / CAM	INTRO TO WELDING	USE OF COMPUTERS CAD / CAM	INTRO TO WELDING	USE OF COMPUTERS CAD / CAM	8:40-9:17 OR 11:58-12:32
	COURSE 3 REGENTS	COURSE 3 REGENTS	COURSE 3 REGENTS	COURSE 3 REGENTS	COURSE 3 REGENTS	9:21-9:58 OR 12:36-1:13
	HAND & POWER drill, grinder, saws, sanders, lathe, etc	MEASURING PRECISION	HAND & POWER drill, grinder, saws, sanders lathe, etc	MEASURING PRECISION	HAND & POWER drill, grinder, saws, sanders lathe, etc	10:02-10:39 OR 1:17-1:54
	TOOL USE & SAFETY	TECHNICAL COMMUNICATION	TOOL USE & SAFETY	TECHNICAL COMMUNICATION	TOOL USE & SAFETY	10:43-11:20 OR 1:58-2:35

BEST COPY AVAILABLE